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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,855	11/04/2003	Bengt Lindoff	0119-171	6321
42015 7590 04/03/2009 POTOMAC PATENT GROUP PLLC P. O. BOX 270 FREDERICKSBURG, VA 22404				
EXAMINER TAYONG, HELENE E				
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE		DELIVERY MODE		
04/03/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com

Office Action Summary

Application No.

10/700,855

Applicant(s)

LINDOFF ET AL.

Examiner

HELENE TAYONG

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed on 1/27/09.

Claims 1-36 are pending in the instant application and have been considered below.

Response to Arguments

2. Applicants arguments regarding the rejection of claims 1, 4-11, 16-19, 21-25, 27-30, and 32 rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Wang (US 20060154633) in view of Jalloul et al. (US 7,251,497 -- henceforth "Jalloul"). have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the claimed invention is directed to non-statutory subject matter.

(1) Claims 1-24 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing.

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

While the instant claim recites “estimating interference in a terminal in a code division multiple access communication system”, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the communication method including “,determining an empty channelization code m under the alternative scrambling code; if an empty channelization code m is determined, using the empty channelization code m for estimating the interference; and otherwise, estimating the interference by determining a variance of symbols in at least two portions of the dedicated channel.”, is of sufficient breadth that it would be reasonably interpreted as the method completely performed mentally, verbally or without a machine.

The claimed method fails to positively recite any method steps, and merely recites using an alternative scrambling code on a dedicated channel determined by a channelization code. Even if these conditions were considered as positively recited steps, they merely describe determining an empty channelization code. These actions could all be performed without a machine.

(2). Claim 25-29, 33-35 and 36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claims 25 and 36, an apparatus is recited; however, on page 14, lines 18-22 of the specification of the instant application, the applicant disclose: **“the invention can additionally be considered to be embodied entirely within any form of computer-**

readable storage medium having stored therein an appropriate set of instructions for use by or in connection with an instruction-execution system, apparatus, or device, such as a computer-based system, processor-containing system, or other system that can fetch instructions from a medium and execute the instructions”

however, a program containing instructions would reasonably be interpreted by one of ordinary skill in the art as software per se. This subject matter is not limited to that which falls within a statutory category of invention (i.e. it is not a process, machine, manufacture, or a composition of matter). Software is functional descriptive material and functional descriptive material is non-statutory subject matter.

(3) Claims 30-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claim 30, a “computer - readable medium” is being recited; However, on page 14, lines 22-31 of the specification of the instant application, the applicant disclose: ***“The term “machine readable medium” can be any means that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction-execution system, apparatus, or device.”*** would reasonably be interpreted by one of ordinary skill in the art as signal, per se. This subject matter is not limited to that which falls within a statutory category of invention because it is limited to a process, machine, manufacture, or a composition of matter. Signal is a function descriptive material and a function descriptive material is non-statutory subject matter.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1,4-8,15-16, 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US 20060154633) in view of Lin (US 20030142730).

(1) with regards to claims 1 and 25;

Wang discloses in (figures 7-10) discloses a (method /apparatus) of estimating interference (fig.10, S3) in a terminal in a code division multiple access communication system (figure 1, page 2, [0032]), in which a pilot channel uses a scrambling code and the terminal uses an alternative scrambling code on a dedicated channel determined by a channelization code (page 3, [0040]-[0046]), comprising the steps of:

Wang discloses all of the subject matter discussed above, but for specifically teaching determining an empty channelization code *m* under the alternative scrambling code. If an empty channelization code *m* is determined, using the empty channelization code *m* for estimating the interference.

However, Lin in the same endeavor CDMA discloses demodulating a received signal using an empty code or walsh channel (see abstract, fig. 8, page 7, [0067]-[0069]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the feature into the method of Wang, in a manner as claimed, for the benefit of noise estimation.

(2) with regards to claim 4;

Wang discloses further discloses wherein the dedicated channel is a dedicated physical channel (DPCH) (page 3, [0046]) and the pilot channel is a common pilot channel (CPICH) (page 3, [0040]-[0043] and [0046]).

(3) with regards to claim 5;

Wang further discloses determining an empty channelization code m based on either information of such an empty code or identification of the empty code (see abstract, fig. 7, 28 and page 3, [0043]-[0046]).

(4) with regards to claim 6;

Wang further discloses wherein the information of the empty channelization code m is included in a message sent to the terminal (figure 10 and page 4, [0052]).

(5) with regards to claim 7;

Wang further discloses implicitly discloses wherein the information of an empty channelization code m is included in a specification of the communication system (page 3, [0038]).

(6) with regards to claim 8;

Wang further discloses wherein the information of an empty channelization code includes channelization codes used by a common control channel (fig. 7, fig. 5 and

page 3, [0039]-[0040]).

(7) with regards to claim 16;

Wang further discloses further discloses wherein the estimated interference is used for estimating a signal-to-interference ratio (page 3, [0046]).

(8) with regards to claim 29;

Wang further discloses wherein the terminal complies with a standard for a universal mobile telecommunications system (UMTS) (also known as W-CDMA), (fig. 1 and page 2, [0025] and [0032]).

6. Claims 2-3, 15 and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US 20060154633) in view of Lin (US 20030142730) as applied in claims 1 and 25 above, and further in view of Jokinen et al (US 6038238).

(1) with regards to claims 2 and 26;

Wang as modified by Lin discloses wherein the variance of symbols is determined by estimating the interference by determining a variance of symbols in at least two portions of the dedicated channel (fig. 1, UL-DPDCH/DPCCH, fig. 5).

Wang as modified by Lin discloses all of the subject matter discussed above, but for specifically teaching determining whether the communication system is not using discontinuous transmission (DTX),

However, Jokinen et al in the same endeavor discloses in (fig.4), a method to

realize discontinuous transmission (DTX) in a telecommunications network (col. 5, lines 20-36).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the method of Jokinen et al in the method of Wang as modified by Lin in order to determine whether the communication system is not using discontinuous transmission (DTX). The motivation to utilize the method of Jokinen et al in the method of Wang as modified by Lin would be to reduce co-channel interference and its effect on the communication quality (col. 1, lines 16-18).

(2) with regards to claims 3 and 15;

Wang further discloses wherein the at least two portions include a dedicated physical control channel (DPCCH) (page 3, [0040]-[0043]) and

implicitly discloses a dedicated physical data channel (generally, a dedicated radio link comprises a physical control channel called (DPCCH) dedicated physical control channel and physical data channels called DPDCH (dedicated physical data channel) (DPDCH).

7. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US 20060154633) in view of Lin (US 20030142730) and further in view of Langberg et al (US 5852630).

(1) with regards to claims 30, 31 and 32;

Wang as modified by Lin discloses all of the subject matter as described above except for the method written by a software program embodied in a computer-readable medium.

However, Langberg et al. teaches that the method and apparatus for a transceiver warm start activation procedure with precoding can be implemented in software stored in a computer-readable medium. The computer-readable medium is an electronic, magnetic, optical, or other physical device or means that can be contain or store a computer program for use by or in connection with a computer-related system or method (column 3, lines 51-65).

One of ordinary skilled in the art would have clearly recognized that the method of Wang as modified by Lin would have been implemented in software. The implemented software would perform same function of the hardware for less expense, adaptability, and flexibility. Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to use the software as taught by Langberg et al. in the method of Wang as modified by Lin in order to reduce cost and improve the adaptability and flexibility of the communication system.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Willenegger et al (US 20030174686) discloses a method and apparatus for reducing interference-channel interference in a wireless communication system.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/
Examiner, Art Unit 2611

3/27/09

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611